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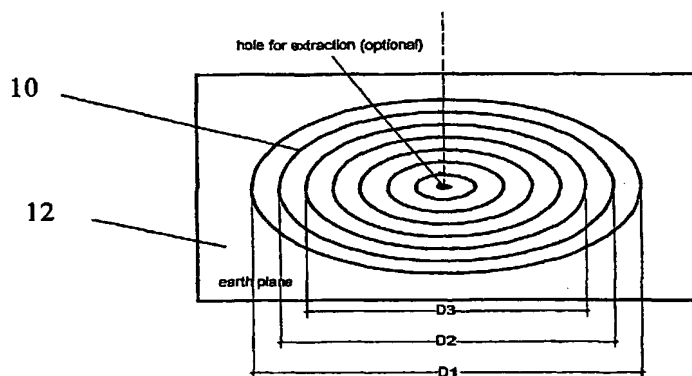
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(54) Title: **CHARGED PARTICLE MANIPULATION**



(57) Abstract: Methods and apparatus are provided for manipulating the phase space of at least one charged particle, wherein a combination of alternating current and direct current voltages applied to an electrode forms a potential which provides a region of phase space manipulation, and wherein the at least one charged particle is situated to one side of the electrode surface. A number of applications are applicable, which include a spot trap, a conveyor belt, a funnel, and ways of holding different types of particles at different distances from an array so that they can be manipulated.

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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 206 506 A (KIRCHNER NICHOLAS J.) 27 April 1993 (1993-04-27)	1-11, 13, 17-22, 24, 27, 29, 32-37, 40, 41, 46-60, 65-69, 72, 74, 75, 80-85, 87-91, 95, 96
Y	column 14	12, 60
A		22, 23, 38, 45, 70, 71

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 43 18 872 A (MOELLER HAMBURG GMBH CO KG) 8 December 1994 (1994-12-08) claims	12,60

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			AU 1469392 A	07-09-1992
			CA 2079910 A1	13-08-1992
			DE 69210496 D1	13-06-1996
			DE 69210496 T2	09-01-1997
			EP 0524311 A1	27-01-1993
			JP 2865865 B2	08-03-1999
			JP 5509437 T	22-12-1993
			WO 9214259 A1	20-08-1992
DE 4318872	A	08-12-1994	DE 4318872 A1	08-12-1994

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